cate tissues, such as those of the eye; and it is also so brittle that it constantly breaks to pieces just as it is being used. In view of these defects M. Bouilhon has devised the following improved mode of manufacture. He reduces the medicament, whatever it is, to impalpable powder, and mixes it with an equal weight of melted gutta percha; the mass, while still hot, is rolled into the shape and size desired. These pencils are too elastic to break, and they can be scraped to any sort of point which may appear desirable in the particular case. It is necessary from time to time to revivify them by scraping, otherwise it may happen that the point contains so much gutta percha, and so little of the medicament, that the crayon is practically inactive.—*Practitioner*, Aug. 1869, from *Bull. Gén. de Thérap.*, June 30.

15. *Antiseptic Cere-cloth for covering Wounds.*—Mr. Edward Lund brought to the notice of the Surgical Section of the British Medical Association, at its late meeting, a material which he says he has "lately used with great advantage for covering wounds, and which I have called *antiseptic cere-cloth.* It is, as the name implies, cloth or thin calico saturated with waxy matter in the form of solid paraffin, to which are added a little oil and wax, with carbolic acid in certain proportions. It possesses this double property, that, when placed over a wound, ulcer, or the opening of an abscess, it not only serves to exclude the air as an impervious dressing to the part, but it constantly emits from its surface the vapour of carbolic acid, as it is disengaged by the heat of the body, and so forms an antiseptic atmosphere around the wound.

"It will be found an economical and ready substitute for the antiseptic lac plaster of Professor Lister, by which he has obtained wonderful results in the management of severe lacerated wounds, abscesses, and the like."

He makes the cere-cloth of three degrees of strength, "as it contains one-fourth, one-sixth, or one-eighth of carbolic acid. The strongest quality is needed in the management of the early stages of a wound; the others are more useful while cicatrization is going on.

"The exact formulæ for the cerates with which the calico is saturated are as follows: the form in each case being intended for twelve fluidounces of the cerate in the liquid state—enough to spread about one square yard and a half of the cere-cloth. The quantities which I give are to be measured by bulk, and not by weight—that is, for the carbolic acid and the oil, as well as the paraffin and the wax which have been previously liquefied; for I find that in this way I get a greater uniformity in the composition.

"No. 4, or the strongest form of the cerate, is composed of pure carbolic acid, Calvert's *liquefied*, f. ℥iij; olive oil (coloured red with alkanet-root, to distinguish the cerate), f. ℥iss; yellow wax, *liquefied*, f. ℥iss; paraffin, *liquefied*, f. ℥vj. Mix.

"No. 6, the next in strength, and of a yellow colour, is composed of pure carbolic acid, f. ℥ij; olive oil, f. ℥iiss; yellow wax, f. ℥iiss; paraffin, f. ℥v. Mix.

"No. 8, the weakest, which should be nearly white, is composed of pure carbolic acid, f. ℥iss; olive oil, f. ℥j, f. ʒvj; white wax, f. ℥j, f. ʒvj; paraffin, f. ℥vij. Mix."—*British Med. Journ.* Sept. 4, 1869.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

16. *Artificial Tuberculosis.*—Dr. Burdon Sanderson, in the *Report of the Medical Officer to the Privy Council* for 1868, defines artificial tuberculosis, and makes special reference to the mode in which it modifies the structure of the affected tissues and the channels by which the tuberculous infection is conveyed and distributed.

Strongly impressed with the conviction that every pathological question must be approached from its physiological aspect, and that no disease can be really understood otherwise than as a modification of healthy function, Dr. Sanderson devotes nearly half of his report to the investigation of the minute anatomy of the parts which are the favourite seats of tuberculosis, and to the *comparison of the morbid products with the original structures.* As the result of this inquiry he arrives at the following conclusions, the importance of which, if they are confirmed by further observation, cannot be doubted:—

1. The characteristic product of tuberculosis is not an aggregation of shrivelled particles of irregular form, but a tissue formed of lymph-corpuscles, held together by a network of hyaline connective substance.

2. There is a close structural analogy between this tissue and that of certain follicular organs belonging to the lymphatic system, *e. g.*, the follicles of Peyer, the similar structures recently discovered in the conjunctiva and in the mucous membrane of the pharynx and the ampullæ of the lymphatic glands.

3. All the favourite seats of tubercle, whether in the massive organs or in the serous or mucous membranes, are characterized by the presence of similar tissue, which, from the analogy stated above, might properly be called adenoid. Notwithstanding that this adjective has already been introduced into pathological nomenclature in another and entirely different sense, Dr. Sanderson prefers it to any other.

4. The distribution of adenoid tissue in the body is in intimate relation with the arrangement of the lymphatic system. The author has for the first time shown that in the great serous membranes (which v. Recklinghausen's discoveries have taught us to regard as lymphatic reservoirs) it forms sheaths around the bloodvessels or masses of microscopical dimensions and irregular contour underneath the epithelium. In the viscera it is distributed here and there in the course of the lymphatic channels.

5. In the peritoneum tuberculosis consists in the enlargement or overgrowth of these sheaths or masses of adenoid tissue, and consequently the tuberculous nodules which are formed have the same intimate structure, and stand in the same anatomical relation to the vessels and the epithelium. In the organs the essential lesions also consist in overgrowth of pre-existing masses of adenoid tissue.

6. The primary local lesion in artificial tuberculosis, whether it originates traumatically or by inoculation, consists in the development at the seat of injury of granulations or nodules, which have the similar structural characters with those of adenoid tissue elsewhere, but cannot as yet be shown to be in relation with the absorbent vessels.

7. The first step in the dissemination of the tuberculous virus consists in its being absorbed primarily by the lymphatics (by which it is conveyed to the lymphatic gland, of which they are tributaries), and secondarily by the veins.

Having thus entered the systemic circulation, it is conveyed by the arteries to the serous membranes, by means of which it is distributed to the various organs contained in the serous cavities.

8. In these organs those parts which are in relation with their serous coverings are first affected. From these the infection is conveyed by the lymphatics, exciting the adenoid tissue in its course, and thus giving rise to tuberculous new growths. The final stage of the process consists in the tertiary infection of the lymphatic glands of each diseased organ, which consequently undergo enlargement, induration, and eventually become caseous.

This enlargement is due to the multiplication of cells in all the tissues of the organ, but more particularly in the alveoli; the hardening to a process of fibrous degeneration, the peculiarities of which are carefully and minutely described in the report. The caseation consists in slow necrosis of the previously indurated and anæmic parts. From the first the gland is incapable of performing its functions, and from the moment that induration commences the absorbents of the organ to which it belongs are blocked up.

In the live guinea-pig tuberculosis, or, as it might be designated, adventitious adenoid tissue, undergoes fibroid degeneration and caseation, the results of which cannot be distinguished from those observed in the normal adenoid tissue of the lymphatic glands and of the spleen. Dr. Sanderson anticipates that it will soon be possible to show that in man, as well as in the lower animals, tuberculosis is an infective disease of the lymphatic system; and that while, on the one hand, the serous membranes play the most important part in the generalization of the tuberculous infection, *i. e.*, in conveying it to the organs contained in the great serous cavities, its distribution inside of those organs is governed by that of the lymphatic vessels.—*Bienn. Retrospect Syd. Soc.* 1869.

17. *Pathology of Phthisis.*—The pathology, and in consequence the prognosis of this disease, have received important additions and modifications during the past two years. The results of the various researches which have been recorded above, on the subject of tubercular inoculation, have added the last links which were necessary to the proof that under the word phthisis—used roughly for destructive pulmonary disease attended with wasting—there are really included a variety of disorders with most important differences in their essential nature. Several things have become abundantly clear. The most practically important of these is the fact that wasting disease, attended with *cheesy* deposit in the lungs, may certainly, and in truth very often does, result from a mere neglected catarrhal pneumonia or other inflammatory affection, in which there is increased cell-formation within the finer bronchial tubes, which extends itself to the alveoli, and that a considerable proportion of such cases is curable. Secondly, that miliary or gray tubercle (to which the term "tubercle" increasingly tends to be limited) is, in the majority of instances at least, altogether a secondary production, the result of absorption of infective matters of various kinds, of which cheesy matter from lung deposits is, perhaps, the most common. It is apparent that the advent of true tuberculosis, in a case previously distinguished only by cheesy deposits and by more or less constitutional hectic, is the commencement of a new and much more dangerous state of things, from which recovery rarely, we may practically say almost never, occurs. A third series of facts which have been brought into great and possibly exaggerated prominence, are those which are observed in a class of cases distinguished by a special tendency to fibroid changes within the lung. Only a few observers maintain that these cases form an entirely separate group; yet in a prognostic point of view it will certainly henceforth be of the highest consequence to note the following group of phenomena: Limitation of deposits to one lung; slow progress of the disease; absence of fever and sweating; tendency to retraction of the chest wall.

Finally, it may be noted that there is a greatly increasing tendency to consider *hemorrhage* as a comparatively unimportant occurrence in pulmonary disease. So far from its having that serious or even almost necessarily fatal augury which was ascribed to it by some of the most distinguished classical authorities not many years since, it is the tendency of recent observation to associate hemorrhage rather with a curable class of cases, and to regard it as frequently affording a harmless and even beneficial relief to mechanical congestion.—*Syd. Soc. Bienn. Retrosp.* 1869.

18. *Pulmonary Hemorrhage.*—The following are Niemeyer's conclusions on this subject:—

1. Abundant bronchial hemorrhages occur more frequently than is supposed in people who neither then nor ever afterwards are consumptive.

2. In many cases the commencement of consumption is preceded by abundant hemorrhage, but there is no genetic connection between the two, which really arise both from a common source. The patient has, in fact, a predisposition to them both.

3. Hemorrhages from the bronchial mucous membrane proceeding from consumption are sometimes in true genetic connection with it, inasmuch as the hemorrhage may lead to inflammatory processes in the lungs, terminating finally in their breaking down.

4. Bronchial hemorrhages occur much more frequently in the course of a consumption than before the disease. They really refer to the time in which the lung disease was as yet latent.

5. Bronchial hemorrhages occurring in the course of consumption may make